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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR      | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|---------------------------|---------------------|------------------|
| 10/535,298      | 05/17/2005  | Mark Jozef Willem Mertens | NL 021458           | 5801             |

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER

LEE, PING

ART UNIT PAPER NUMBER

2615

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/535,298

Applicant(s)

MERTENS ET AL.

Examiner

Ping Lee

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Courneau et al (US005987142A).

Regarding claims 1, 8 and 9, Courneau et al (hereafter Courneau) disclose a data representation apparatus for representing data (mono signal) by means of an audio signal, comprising

an audio processing unit (1) arranged to deliver the audio signal with a characteristic dependent upon a positionless data variable (each coefficient for the filters has no unit, so it has particular position) capable of having a first value and a second value,

characterized in that

the data representation apparatus comprises a mapping unit (8), arranged to map the first value of the data variable to a first position in three-dimensional space, and the second value of the data variable to a second position in three-dimensional space; and

the audio processing unit is arranged to change the characteristic, resulting in the audio signal appearing to originate from the first position for the data variable having

the first value respectively the second position for the data variable having the second value, to a user listening to the audio signal (col. 2, lines 13-35).

Regarding claim 2, Courneau shows a filter for applying a head related transfer functions to an input audio signal to obtain the output audio signal appearing to originate from the first position respectively the second position (8).

Regarding claim 3, Courneau shows the data variable distributor (bus 2) and the measurement device (col. 2. line 48).

Regarding claim 4, Courneau shows that the mapping unit is arranged to map a collection of nominal values of the data variable to predetermined regions of three-dimensional space (col. 1 and 2; Courneau shows the examples with the simulated sound sources in 3-dimensional space).

Regarding claim 6, Courneau shows the specification means (7 or 11).

Regarding claim 7, Courneau shows the selection means (col. 3, lines 13-33) arranged to allow presentation of a first set of data variable values by a first type of the audio signal and the second set of the data variable values by a second type of the audio signal.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courneau.

Regarding claims 10 and 11, Courneau fails to explicitly show a computer program and a data carrier respectively. Courneau teaches a computer (13) being used for controlling the localization and sound sources. With one element being a computer, one skilled in the art would have expected that the entire processor (1) in Courneau, including the computer (13), could be implemented by a computer program for providing the required processing. Of course, with a computer program, it has to be stored in some media that reads on the claimed data carrier. Thus, it would have been obvious to one of ordinary skill in the art to modify Courneau by using a computer program for implementing the required processing steps as disclosed in Courneau in order to streamline the processing from the computer (13) to other elements in the processor (1).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Courneau in view of Abe et al (US 5,729,612).


Regarding claim 5, Courneau fails to show the positions on a curvilinear locus in three-dimensional space. Courneau teaches using HRTF for implementing the localization of the sound source. Abel et al teach how the curvilinear locus in three-dimensional space related to the measured and derived HRTF (col. 10, lines 50-67). Thus, it would have been obvious to one of ordinary skill in the art to with Courneau in view of Abel to have the HRTF defining the positions on a curvilinear locus in three-dimensional space.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Ping Lee  
Primary Examiner  
Art Unit 2615

pwl